

# CACTUS AND SUCCULENT JOURNAL

Of the Cactus And Succulent Society  
Of America

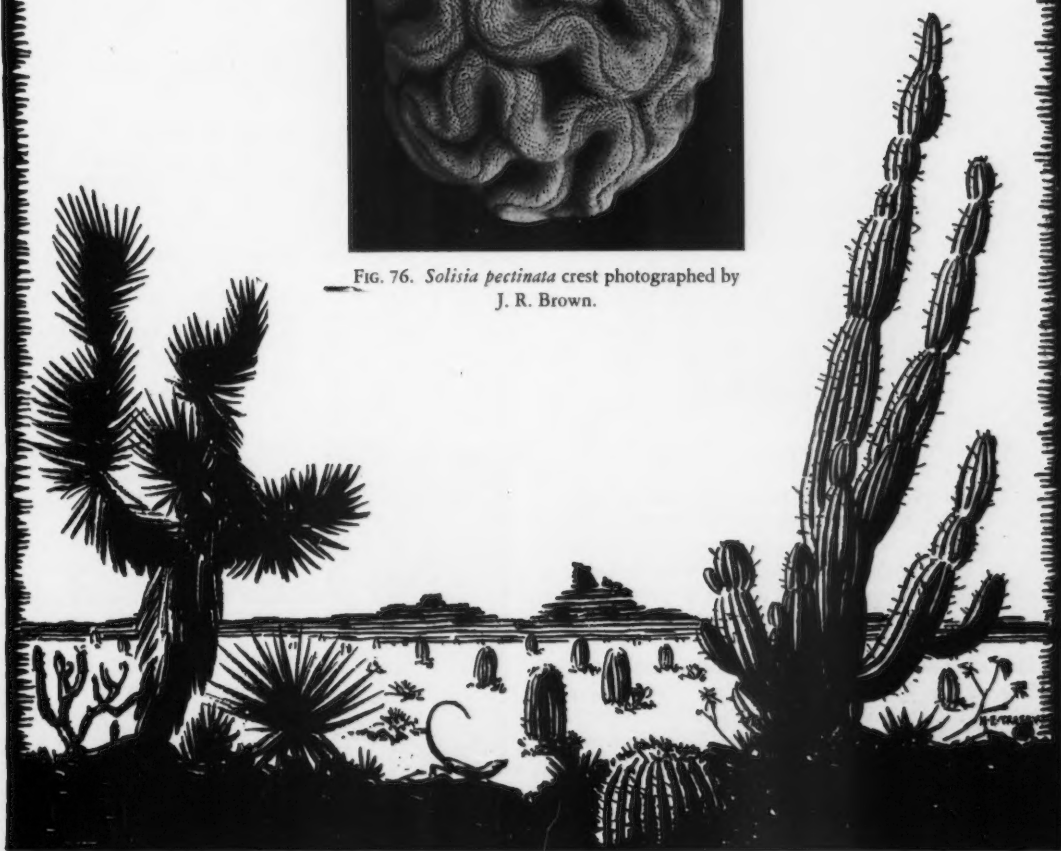
Vol. XVI

JUNE, 1944

No. 6



FIG. 76. *Solisia pectinata* crest photographed by  
J. R. Brown.



## CACTUS AND SUCCULENT JOURNAL

Published and Owned by the Cactus and Succulent Society of America, Inc., Box 101, Pasadena, California. A monthly magazine to promote the Society and devoted to Cacti and Succulents for the dissemination of knowledge and the recording of hitherto unpublished data in order that the culture and study of these particular plants may attain the popularity which is justly theirs. Subscription \$5.00 per year. Foreign \$3.00 per year by international money order. Membership in the Cactus Society free with subscription. Mail application to SCOTT HASELTON, Editor, Box 101, Pasadena, Calif. Editorial Staff: THE ENTIRE SOCIETY. Entered as Second Class Matter at Pasadena, Calif., under act of March 3, 1879.

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## MONSTROSE FORMS

On page 171, Vol. VI, of the CACTUS JOURNAL, is shown what the owner called "Opuntia Whatisit." This plant was exhibited by Carl Brassfield at the annual show and attracted considerable attention. Standing before the plant with the late Dr. A. D. Houghton, I asked him what in his opinion was the cause of this strange growth. He had a ready answer to my question and although I do not recall the



Fig. 77. Opuntia "Whatisit"

exact words, it was approximately the following: "This peculiar growth is a cancerous condition analogous with the burls of the redwood trees. Their actions are similar to boils in humans, yet nobody knows what causes the growth other than that it is a plant disease found in many genera of plants."

About ten years ago I found several growths of this kind on the plants of *Opuntia vaseyi* in the El Monte district that struck me with their coloring and beauty, so I uprooted three young, infested plants and also took two branches, as

cuttings, that were also infested. I planted all these in my garden and watched the results of their developments over a period of three years. This much has been determined by that little experiment:

The cancer is not due to an injury to the stems, instead it is caused by certain conditions under ground. The rooted plants continued to grow the cancers and promote new ones, while the malformation soon disappeared from the cuttings that were rerooted and the plants grew on without a recurrence of the disease. Believing this condition might be due to nematodes I examined the roots of the cancerous plants and found they were not infested with this parasite.

G. A. FRICK.

EDITOR'S NOTE: Crested forms are quite different from the malformations referred to by Mr. Frick. See the cover of this issue for a picture of a crest and Mr. Hertrich's photo on page 34 of the March issue. Compare these with Carl Brassfield's "Opuntia Whatisit" and the diseased Aloe on page 155, Vol. XIII.

## FROM LAVAL GOULET, CANADA

The March number of the Cactus and Succulent Journal brings a note of James A. Cole of Toronto, Canada, in which he complains, due to lack of coal during winter, several of his plants have frozen. I understand how he feels right now. May I give him a suggestion. Why doesn't he have a thermostatic switch with a bell buzzer which works on a dry cell? The thermostatic switch is set for a certain temperature, let's say 55 and would wake him up if temperature drops to a lower temperature. If he is not too lazy he could wake up and build the fire and save the plants. The installation would cost him around \$15 to \$20. I have one myself in my greenhouse and believe me it has been useful last winter.

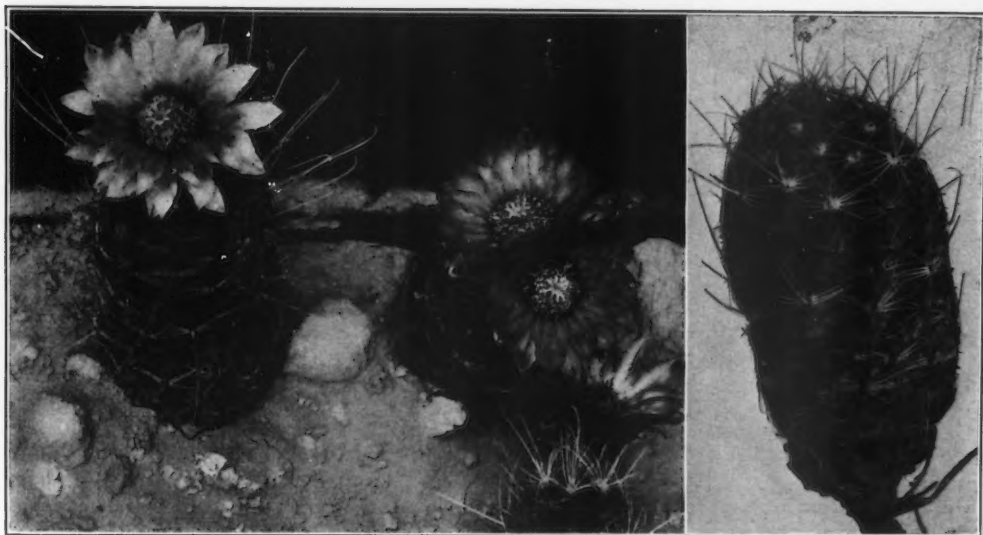
## THE CACTUS BOOK

by  
A. D. Houghton

From this book you will learn the secrets of successful watering, how to grow Cacti from seeds, how to propagate the rare species by grafting, how to hybridize, how to grow indoors in pots, and on window sills, how to purchase and trade to get new sorts and what kinds to grow for different effects. Also introduces you to more than 1,000 different kinds of Cacti with information for selecting the types you need for every purpose and location.

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Cactus & Succulent Society  
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FIG. 78, *Hamatocactus setispinus* var. *setaceus*

## Hamatocactus

By W. TAYLOR MARSHALL

When Britton and Rose erected the genus *Hamatocactus* for *Echinocactus setispinus* Eng. they noted the long tubed, narrow funnel-form flower, the texture of the fleshy stem, the fruit which is thin skinned and juicy, and the tuberculate seeds, and founded the genus on these characters.

Engelmann in "Synopsis of the Cactaceae of the United States," listed *E. setispinus* as species No. 6 in the *Hamati* section of *Echinocactus* and said, "The compressed ribs, setaceous spines, small red berry and tuberculated seeds easily distinguish it from all its allies." He then listed *E. sinuatus* Dietr. as species No. 7, commenting, "Intermediate between the foregoing and the next species, and considered by Dr. Poselger a connecting link between them, but easily distinguished from the former by the larger size, thicker ribs, flattened central spine, and by the shining, finely dotted seeds, from the latter to which it approaches more closely, by the more compressed and less strongly tuberculated ribs, the smaller number of stigmata (8-12), smaller fruit, and much more finely dotted seed. Poselger considers this a variety of *E. setispinus*."

Species No. 8 in Engelmann's listing is *E. longibamatus* Gal. which is accepted as a syn-

onym of *E. hamatacanthus* Muhl. as is also *E. sinuatus*.

*E. sinuatus* represents the form of *E. hamatacanthus* illustrated in Britton & Rose "Cactaceae" III: 144, fig. 152 and in plate XVI of the same work.

*E. longibamatus* represents the form with tuberculate ribs illustrated in: "United States and Mexican Boundary Survey," Washington, 1859, II, Part I; "Cactaceae" by Engelmann, plates 21 to 24; "Blanc Catalogue" pg. 47; and by Schumann in "Gesamtb. Kakteen." 341.

These two forms mark the extremes in this variable species but all of the intergradations are found in field work and it would be impossible to make a division at any point and say "here begins one species and there is the end of the other."

A plant illustrated in "Monatsschr. Kakteenk." 16:57, is intermediate between the thin ribbed, only slightly tuberculate, cylindrical form described as *E. sinuatus* and the broad ribbed, strongly tuberculate, globose form described as *E. longibamatus*.

The late Dr. A. D. Houghton, shortly before his death, told me that he had received a number of specimens of the extremely globose form

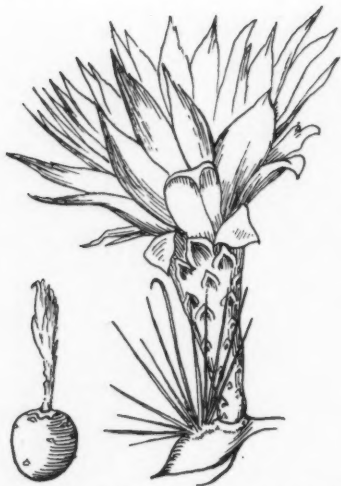


FIG. 80. Fruit and flower of *Hamatocactus setispinus*

with ribs formed by confluent, almost terete tubercles, and with the request that he consider them as a possible new species and genus, and if he decided to publish them as such to use the binomen "*Brittonia Davisii*." Dr. Houghton said he did not consider that the plants in question to be other than extreme examples of *E. hamatacanthus* and that he had not published either the genus or the species. In spite of this some Texas dealers have listed *Brittonia Davisii* as a desirable species and credited its publication to Houghton. Borg in "Cacti," MacMillan, London, 1937, refers *Brittonia Davisii* Houghton to the synonymy of *E. hamatacanthus*.

Engelmann in "Synopsis of the Cactaceae of the United States" lists three varieties of *E. longibamatus* as follows:

Var. a, *crassispinus*, spines very robust, radials 8 to 11, centrals 4, angled, the lower flexible and more or less hooked. (*E. flexispinus* Eng. in Wisliz.)

Var. b, *gracilispinus*, spines more slender, radials 12 to 14, centrals 4 to 8, the lower elongated and hooked (*E. hamatacanthus* Muhl.)

Var. c, *brevispinus*, spines more slender, radials 8 to 11, centrals 4, terete, hardly longer than the centrals.

To these Weber has added:

Var. d, *sinuata*, plant smaller, radials more slender and often hooked, the 4 centrals slender and hooked, the lowermost very long.

Variety a, *crassispinus*, which is based on Engelmann's description in "Botany of Dr. A. Wislizenus' Expedition," exactly covers the form mentioned as *Brittonia Davisii* and which

I listed, erroneously, as var. *Davisii* in my "Cactaceae," as will be noted by comparing it with Engelmann's description of *E. flexispinus*, from which I quote, "The specimen before me is 10 inches high, and the same in diameter, ribs thick but not rounded, areoles (without the floriferous areolae which are 3 or 4 lines long), 6 lines long and 4 wide, 1 or 1½ inch distant, upper spines most slender, 1¼ to 1½ inch long, lowest one 1 to 1¼ inch long, stouter, lateral spines 1½ to 3 inches long, slightly and sometimes indistinctly annulated, upper central spines 2½ to 4 inches long, lower spines stoutest, 4 to 5 inches long, mostly reflexed, often flexuous and twisted, more curved or even hooked at the extremity, much compressed, 4-angled, sharply carinate above and below, slightly annulated."

Variety b, *gracilispinus*, represents the intermediate form best illustrated in "Kakteenkunde" 16:57 and variety c, *brevispinus*, represents the other extreme as illustrated in "Britton and Rose" as above noted.

Variety d, *sinuata* Weber, is unknown to me but sounds as though it might be referred to *Thelocactus crassibamatus*.

The long, narrow, funnelliform flower of *E. hamatacanthus*, its thin skinned, juicy and edible fruits, its pitted seeds with large circular basal hilum and nearly straight embryo, amply separate this species from *Ferocactus* and makes reasonable its inclusion in *Hamatocactus*.

I therefore contend that *Hamatocactus* should have these two species:

*Hamatocactus hamatacanthus* (Muehl.) Berg.

var. *crassispinus* Eng.

var. *gracilispinus* Eng.

var. *brevispinus* Eng. and the varietal descriptions should be rewritten to include the variations in body forms.

*Hamatocactus setispinus* (Eng.) B. & R.

var. *bamatus* Eng. representing the globose form.

var. *setaceus* Eng. representing the cylindrical form (both varietal descriptions in Syn. Cact. U. S.)

Two other varieties listed by Borg, viz: var. *mierensis* K. Sch. and var. *Orcutti* K. Sch. seem to be duplicates of the first.

## HUMMEL'S VICTORY PICTURE BOOK

The popular demand for this 40-page book has necessitated the third printing. Hummel's Exotic Gardens has given the Abbey Garden Press permission to publish this Third Edition.

25c each or 5 for \$1 postpaid in the U.S.A. Foreign 30c each. Box 101 Pasadena 16, Calif.



FIG. 81. Maricao Mountains in Puerto Rico. Home of *Pedilanthus angustifolius* Poiteau.

## Confusion Among the Slipper Flowers

LOUIS C. WHEELER, LADISLAUS CUTAK

and ALAIN WHITE

In August, 1939, Cutak received at the Missouri Botanical Garden a succulent cutting from Mr. Claud L. Horn, then Associate Horticulturist at the Puerto Rico Experiment Station, Mayaguez. Mr. Horn found this plant at only one station, about one-half mile south of Camp Buena Vista in the rough Maricao Mountains in the west central part of Puerto Rico (about 18 degrees 10 minutes north latitude and 66 degrees 80 minutes west longitude) at an elevation of about 2500 feet. The infertile lateritic soil (derived from serpentine) in which it grew dries out rapidly after the frequent rains which total about 110 inches annually.

The cutting was rooted, and a year later was transplanted into a permanent bed in the Cactus House. The following year (March, 1941) it bloomed and proved itself to be a Slipper-Flower.

To recognize a Slipper-Flower is easy, but to determine which of the many Slipper-Flowers

the one in hand may be, is difficult. A momentary digression is in order to explain the structure of the "slipper-flowers" from which the genus *Pedilanthus* derives its delightful common name.

The "flowers" are rather small, yet colorful enough when borne in profusion, as is frequent in *Pedilanthus*, to make up for the diminutive size. The apparent "flowers" of *Pedilanthus*, like those of its close relatives the poinsettia and other spurges, are, in reality, clusters of few to numerous staminate flowers (consisting of but a single stamen on a stalk and wholly lacking both petals and sepals) surrounding a single central pistillate flower which is likewise devoid of petals though in rare instances minute sepals may be present. This entire cluster of staminate flowers with the central pistillate flower is surrounded by an involucre which may be essentially radially symmetrical, as in most spurges, or markedly unequal, as in *Pedilanthus* which often



has a somewhat slipper-shaped and often bright colored involucre.

In attempting to name the plant, Cutak consulted Millspaugh's revision of *Pedilanthus* published in 1913<sup>1</sup> which is the only modern treatment of the genus. It proved to be closest to the Narrow-leaved Slipper-Flower, *Pedilan-*

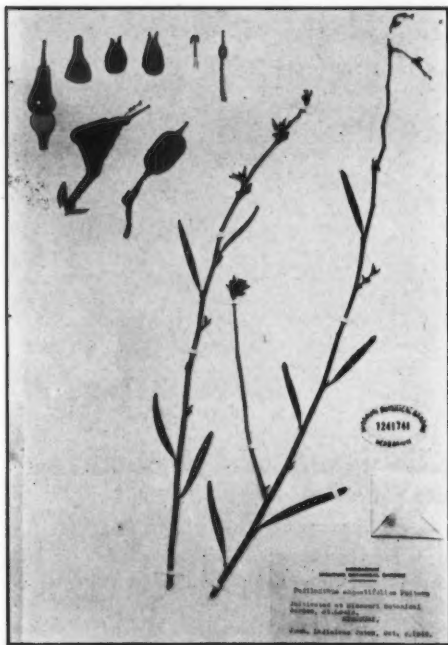


FIG. 82. *Pedilanthus angustifolius* in the Herbarium, Mo. Bot. Garden.

*thus angustifolius* Poiteau. As described by Millspaugh, *P. angustifolius* differed in sufficient degree from the plant in question to suggest that the two were perhaps not wholly identical. However, before reaching any definite decision as to the identity of Horn's plant it was necessary to ascertain the identity of *P. angustifolius* described in 1812 by Poiteau who saw it growing on the Island of Santo Domingo. Descriptions are at best poor substitutes for pictures, and pictures often fail in critical points. Poiteau provided both description and picture but both

failed to reveal certain essential details. Ideally a trip should have been made to Paris to search through the Museum d'Histoire Naturelle for a possible specimen collected by Poiteau in Santo Domingo. Such a specimen would probably qualify as the "type," or standard, by which we could interpret the species. A photograph of a specimen of *Pedilanthus* would probably be of little help. Unfortunately the war in Europe made a visit to Paris at least impractical. Poiteau told exactly where he had seen his plant cultivated, and it might still be found there, so a trip to Santo Domingo might locate the plant. Poiteau's words were: "J'ai observé cette espèce dans le jardin de l'hôpital des Pères, au Cap français, île St. Domingue." However pleasant an Antillean cruise might have been, it would have been a very uncertain expedient, for what assurance would there be that a Slipper-Flower growing in the same garden at Cape Francis in 1942 was the same as the one which grew there over a century and a quarter before?

The problem was solved with some assurance of correctness by careful study of the specimens available at the U. S. National Herbarium, and those borrowed from New York Botanical Garden. All were studied together at the National Herbarium, Washington, D.C., by Wheeler. The accurate observations of Cutak and specimens from Horn's plant differed from Millspaugh's description of *Pedilanthus angustifolius* but not from the specimens so named by Millspaugh! So far as can be verified by Poiteau's description and plate, the plant now known as *P. angustifolius* is the same as the plant Poiteau described from Santo Domingo.

Since *Pedilanthus Grisebachii* Millsp. & Britton was doubtfully distinct from *P. angustifolius*, its identity was also considered. The reason for the difficulty of distinguishing the two gradually became evident. The original description of *P. Grisebachii* was drawn, in essential details, largely from a specimen of *P. angustifolius* collected by A. A. Heller (No. 6192) in Puerto Rico. *P. Grisebachii* is known only from Jamaica where it must be rare since there are only two collections at New York Botanical Garden, and there is none at the U. S. National Herbarium.

The following key will distinguish the two species:

- |  |                         |
|--|-------------------------|
| Ovary, styles, and capsule glabrous;<br>styles 4-5 mm. long; styles about equally parted into stigmas.....       | <i>P. angustifolius</i> |
| Ovary, styles, and capsule vestite;<br>styles 5.5-6 mm. long; styles 3 parted, each division minutely bifid..... | <i>P. Grisebachii</i>   |

<sup>1</sup> C. F. Millspaugh. The genera *Pedilanthus* and *Cubanthus*, and other American Euphorbiaceae. Field Mus. Pub. Bot. 2: 353-377. 1913.

#### *Pedilanthus angustifolius* Poiteau

Shrub; stems glabrate; leaves shortly petioled, linear to narrowly linear lanceolate, pub-

escent, particularly on the underside, 3-7 cm. long, 5-10 mm. wide, entire, midrib carinate on lower side of leaf; cymes of few to several involucre, terminal on the main branches or lateral on spurs; bracts deciduous, variable in length; peduncles more or less white hairy, 5 mm. long, lengthening in age; involucre 6-10 mm. long, strongly zygomorphic, crisply hairy outside, somewhat puberulent inside, pink to rose red; main lobes rounded, more or less minutely denticulate at the apex; lateral lobes connate except for the subtire to denticulate apex; 5th lobe spatulate, cuneate, to oblong, apex obtuse to truncate, subtire to minutely sharply denticulate; appendix gibbous at base, deltoid-attenuate, apex truncate, thickened; glands 4; staminate pedicels glabrous, pale to light green, ca. 7 mm. long; pistillate pedicel glabrous on the terminal third and at the base, otherwise pubescent or, rarely, tomentulose; ovary glabrous, strongly angled; styles 4-5 mm. long, connate except at the very tip where parted to form 6 stigmas; seeds 3.7-4.5 mm. long, mottled ashen and brown, tetragonal, sometimes turgidly, base obtuse, apex acute but low.

Cuba, Haiti, Santo Domingo, Puerto Rico, St. Thomas and other lesser West Indian Islands.

The above description of *P. angustifolius* is, for the greater part based on herbarium specimens examined; living plants at Missouri Botanical Garden supplied the rest.

#### **Pedilanthus Grisebachii** Millspaugh & Britton

Shrub 1-2 m. tall; stems sparsely tomentulose when young, soon glabrate, bark with scales of white wax when dry; leaves only on young branches, narrowly lanceolate to linear, 1-3 cm. long, narrowed to a petiole 1-1.5 mm. long, entire, tomentulose, midrib slightly carinate on lower side of leaf; cymes of few to several involucre, terminal on the main branches or lateral on short spurs; bracts shorter than the peduncles, soon deciduous, white with a close tomentum; peduncles up to 7 mm. long, closely tomentulose; involucre scarlet, 8-10 mm. long, strongly zygomorphic, crisply hairy outside, glabrous inside; main lobes rounded, subtire, ciliate; lateral lobes spatulate, free for ca. 1 mm., entire, ciliate, glabrous inside, pubescent outside; 5th lobe spatulate, entire, ciliate, glabrous inside, pubescent outside, free portion ca. 1.5 mm. long; appendix gibbous at base, deltoid-acuminate, apex thickened, truncate; glands 4; pistillate pedicels with crisped hairs throughout, ovary clothed densely with white curly hairs; styles united except at apex, each very shallowly bifid; styles 5.5-6 mm. long; male pedicels glabrous; the one valve of a capsule

seen sparsely crisply hairy; seeds not seen.

Known only from Jamaica. Type: Bank, Bull Bay, Kingston to Bath, Jamaica, Sept. 14, 1908, N. L. Britton 3677 (New York Botanical Garden); growing in dry bank near Bull Bay, sea-coast, Jamaica, June 20, 1907, Wm. Harris 9645 (NY); on dry hillsides near Bull Bay, Jamaica, March 12, 1915, Wm. Harris 12117 (NY).



FIG. 83. *Pedilanthus angustifolius* cultivated in Mo. Bot. Garden.

The original description of Millspaugh & Britton, was drawn, in essential details, largely from Heller 6192, Puerto Rico, which collected is *P. angustifolius* Poit. L. M. Underwood & R. F. Griggs 637, Yauco, Puerto Rico, July 5, 1901 (U. S. Nat. Herb. 405579) cited by Millsp. as *P. Grisebachii* is quite sterile, but probably *P. angustifolius*.

*Opuntias in South Africa*, some naturalized species with special references to Prickly Pear, and methods of eradication. With this report are eight excellent water color drawings 9x12 inches by Cythna Letty. The 8 drawings each show a branch, fruit, flower, cross section of flower, style, petals, glochids, etc. Only a few copies available. . . . .85c

THE GARDEN DICTIONARY (1936)—Norman Taylor. 800 pages. Indexed. Fabrikoid. . . . . \$8.50

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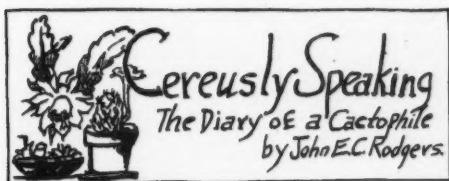


FIG. 84. A painted background that blends into the exhibit of the Cactus and Succulent Society of Oklahoma.



FIG. 85 (Left) *Malacocarpus pauciacetulosus*. FIG. 86 (Right) *Hamatocactus setispinus*. Flowered and photographed by R. H. Lahmeyer, Indiana.





## ECHINOCACTANAE

Marshall and Bock's genera—23, 29, and 30

Each month as I collect my data for this column I find "old friends" have been neglected while I lavish my fickle fancy on a much heralded plant or genus. I buy them and watch them grow bigger and bigger much like "infant industries and the tariff idea." Usually I realize they're "duds" which sooner grow than bloom. But that "old friend" type goes right on performing. To this latter group I add my June column's paeans of praise.

May 1. *Gymnocalycium*, *Malacocarpus* and *Notocactus* are three desirable genera of *Echinocactanae* (Genus 23, 29, and 30, Marshall and Bock) for pot culture. The needs of each of these is the same: a loose, rich soil, partial shade, and liberal watering in warm weather. I have found they do well on their own roots. "*G. mihanovichii* easily is the favorite, but *G. denudatum*, *saglionae*, *kurtzianum* and *damsii* are available and most interesting. In fact, any species of this genus is well worth while. *Notocactus* are among the most desirable of smaller cacti because of the bright coloring and bristle-like spines that cover the plants and the relatively large, showy flowers freely produced. Pot grown plants are in flower several months out of the year." End of quotes from M. & B. "Cactaceae."

May 3. My first plant of these three genera was *G. mihanovichii*. I bought it in April, 1934. A single reddish-purple prominently ridged and banded at each of the spine clusters on the main ribs. It bloomed all summer and, with the exception of 1937 when it had to be rerooted, it has bloomed each year since for two

or three month periods. Started to bloom this year March 5. Self-fertilizes. Purple pulped berry with miniature light brown hand-grenade-shaped seeds. Seeds germinate in seven to twelve days. Seedlings grow rapidly, as all this genera does, and bloom for me by the fourth year. *Notocactus* (*Malacocarpus*) *ottonis* was bought same place in July, 1933. It crested in April, 1934. *G. schickendantzii* and *platense* I bought from a "dish-bowl-gardener" in Mansfield, Ohio, in September, 1936. *Otonis* is a "chronic bloomer" for me—yellow satin with red stigma—yes they are real window plants, too, by the way.

May 5. Examined the three varieties of *Notocactus* *mammulosus* (*floricornis*, *pampeanus*, *submammulosus*) for buds. Are growing rapidly now. Should insure blooms next spring. *N. concinnus*, *tabularis*, *scopa* and *baselbergii* growing in the same tray. Sand about pots up to the rim which I keep moist from March until October. I also water the soil within the pots regularly so they are moist but never wet. All of this group like lime. Good drainage is essential, but not too much sand either. A rich humus soil seems best with one-third sand and gravel the size of peas to provide lightness or porosity. My soil for these plants has more body to it than for other types of the *Echinocactus*. Growth is usually rapid. They do not resent winter watering if drainage is perfect. I keep my plants out of draughts in good light but never where the noonday sun hits them. A "lobster-colored Gymno" shows it has been kept too dry and in too much direct sunlight. My experience shows these plants do not bloom well unless partially shaded.

May 7. *G. mihanovichii* has two scaly purplish berries, two buds and a bloom. Opens up into a cup within a cup effect—chartreuse. Effective against the reddish purple green plant with purple stripes in a regular pattern about the plant. Has had two liberal liquid manure applications since March. Has an inch and a half offset which shows new growth. (Note: Manure water in March for all blooming size plants.)

May 9. One specimen has been in the same pot for three years. Blooms freely. Soil is a sandy loam mixed with an equal amount of coarse sand and decayed leaf mold. Old plaster, size of peas, agricul-



FIG. 86. (Left) *Gymnocalycium queblanum*. FIG. 87. (Right) *G. mihanovichii*.  
Photos by R. H. Lahmeyer, Indiana.

tural lime and a dash of bone meal is added to this soil at the rate of a three-inch pot to half a bushel of prepared soil. I use this as a standard soil for my Echinocacti with variations for *Ariocarpus*, *Ferocactus* and *Leuchtenbergia*. So far I have not lost a plant of the three genera I'm writing about.

May 12. *G. venturianum* bloomed—dark red. Plant is not over an inch and a half across but a constant bloomer. Has three more buds. *G. damsii* is an old favorite. Has buds started. Is usually an early bloomer in most collections. White flower but at times it has a pinkish cast. *G. anisitzii* budded. Bloomed for me last fall. Books say white but mine was nearer a sulphur yellow. Has long twisted spines. Resents too much sunlight even during the winter months. Needs more water than I usually give other plants.

May 15. *Notocactus leninghausii* growing rapidly on its own roots. No sign of buds. Johnson's catalog shows a picture in color of it in bloom, but no one has ever had it bloom in this district. A six-month grafted one grows but it hasn't bloomed either. No doubt it isn't adapted to greenhouse culture. Pretty-orangy spines or bristles. I'm not disappointed but I can dream can't I? Perhaps I shall give a piece away and the recipient will shortly say, "You know that piece of *leninghausii* you gave me—well, it bloomed." Has it ever happened to you?

May 17. Have six seedlings of *Notocactus ottonis* x *Thelocactus bicolor* and five of *N. ottonis* x *Astrophytum asterias*. All show *ottonis* characteristics—branching below the ground level, spine color and rib arrangement. I've got a six inch seed pan of half-inch offsets growing now and more forming. It is said that the variations will show up in the second generation.

May 20. *G. platense* had second bloom. Never sets seed as *mihanovichii* does. Bloom is a large pinkish white cup shading toward the wine red center with white outer set of petals. *N. mammulosus* bloom open second day—yellow. Both like a rich porous soil—same moisture but not too much (Houghton says arid but I give them a good soaking from the base every two weeks in their galvanized tray). *Malacocarpus bennisii* (Johnson introduction) has twenty fruits from last year—berries are pink—and appear from the brown felt in top. Blooms over an inch across. Yellow with red stigma. Profuse bloomer and pretty, too.

May 31. All of the Echinocactus are interesting, but I find I still do not have all of the 32 genera in this sub-family of cereae.

Next month Rebutia, Lobivia, and Chamaecereus

## Notes on Haworthias

By J. R. BROWN

It is fairly well known that many Haworthias are found growing in their natural surroundings deeply withdrawn into the soil, this being especially marked in the dry season. Haworthias with this habit are included among those popularly known as *windowed plants*.

It is by means of *contractile* or, as they are sometimes called, *pull* roots that these plants are withdrawn so deeply into the surrounding soil.

To illustrate a Haworthia with this root characteristic a growing plant of *Haworthia truncata* Schönl. var. *tenuior* Poelln. was photographed and is shown here in natural size. This particular plant was used because it was actually growing in cultivation deeply buried in the soil and clearly indicated the action of contractile roots and also because the leafy portion of the plant is simple and easily seen. The broken line A indicates the approximate surface of the soil, the two outermost leaves of the plant being entirely below the surface. The sand particles between the leaves also serve to show the depth of withdrawal as does the blanched lower portion of the leaves. The thickened and older parts of the roots, as indicated by B, is where the greatest contraction takes place, the visible and out-

ward evidence of which is the transverse or horizontal wrinkles. The contraction of the roots is caused by the shortening and broadening transversely of cells in the inner cortex and it is due to the strains on the root tissues caused by this change in cell growth that the transverse wrinkles are present on the outer surface.

The small growing and feeding roots, included in the portion of the roots indicated by C in the illustration, securely attach the plant in the soil so that, when the contraction of the roots takes place at B the leafy part of the plant is pulled into the soil.

Other Haworthias with a similar semi-hypogean mode of life and which have the same characteristic roots include, *H. pilifera* Bak., *H. Cooperi* Bak., *H. Maughani* Poelln., *H. asperula* Haw., *H. picta* Poelln., *H. pygmaea* Poelln., etc. Haworthias like the above seem to have several characters in common when growing in their native abode, the entire top of the plant is more or less truncate and the plant is withdrawn deeply in the soil, the leaves are comparatively few and probably the plants remain more or less simple.

Contractile roots are present on many plants, some Aloes and Agaves have their leaf rosettes

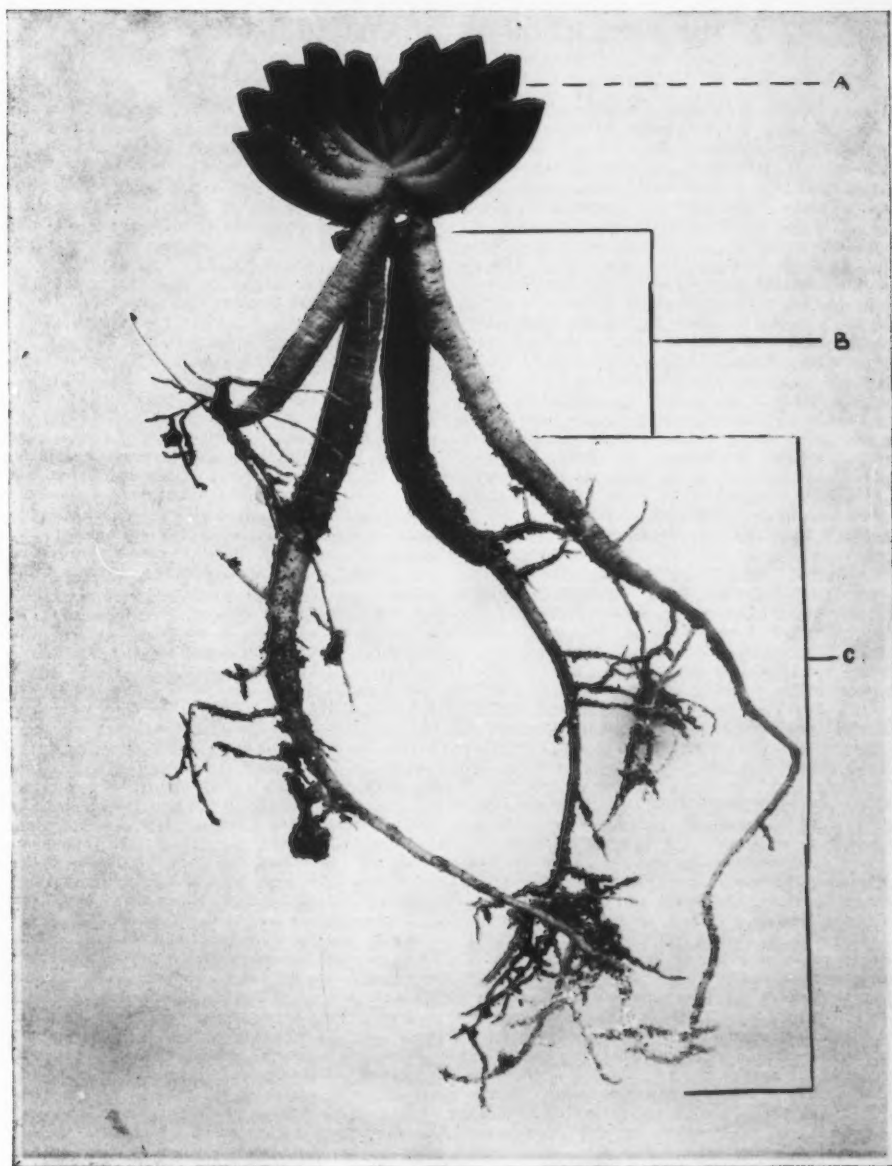


FIG. 88. *Haworthia truncata* Schönl. var. *tenuior* Poelln.

kept closely pressed to the soil by their means, and it is due to the action of such roots that bulbous plants are kept at the proper depth in the soil. It is often amazing to notice how deeply and quickly some spp. of seedling bulbs are

pulled into the soil. When the required depth is reached these contractile roots cease to function or in the case of some plants may grow off in a horizontal direction with no downward pull.

## THE PUBLICATION OF OPUNTIA RHODANTHA

By LEON CROIZAT

*Opuntia rhodantha* is a hardy ornamental cactus native to Colorado, and well known to the students of our flora. Some at least of these students must have wondered at the citation which follows the mention of *O. rhodantha* in Britton & Rose's classic work. This citation (Cact. 1: 198. 1919) reads precisely as follows: "OPUNTIA RHODANTHA Schumann, La Semaine Hort. 1897. *Opuntia xanthostemma* Schumann, Gesambt. Kakteen 735. 1898. . . ." The incomplete reference so made to *La Semaine Horticole* is readily seen to be an oversight of the kind which mars on occasion the most painstaking work. Less understandable is the fact that Britton & Rose could cite for a figure of this *Opuntia*: "Gartenwelt 1:83," which was published in 1896. The puzzle as to the time and place of publication is deepened by the references in the Index Kewensis and the Gray Index, for these references do not agree either with Britton & Rose, or between themselves. The Index Kewensis credits the publication to Schumann in the *Gesambtbeschreibung*, 1898; the Gray Index as it now reads to Schumann in the *Gartenwelt*, 1896.

None of these references is correct, for to the best of my knowledge the facts stand as follows:

(1) In July, 1896 (in *Monatsschr. Kakteenk.* 6: 111), Schumann described very briefly two *Opuntias* collected by C. A. Purpus in Colorado in 1892-1893<sup>1</sup>, which he named *O. rhodantha* and *O. xanthostemma* (sic). These binomials are *nomina subnuda*.

(2) During the latter part of 1896, these two species were listed in Späth's Catalogue No. 98 (1896-1897), p. 58. They are advertised in a brief description which is plainly meant to attract the attention of prospective buyers. It is stated in this Catalogue that the publication took place in the *Monatsschrift*, as cited above.

(3) In December, 1896, these two species and other cacti were figured without flowers, and described by Rehnelt (in *Gartenwelt* 1:83 fig. 90), under the manuscript authorship of Schumann. The figures and descriptions were made from plants growing at the Botanical Garden of Darmstadt, and both are the work of Rehnelt (see op. cit., 86), who acknowledges the assistance of J. A. Purpus only in the text. Rehnelt's article is important as the probable original source of several neglected names.

(4) In January, 1897, Rehder (in *Müll. Gärt.-Zeit.* 12:13 fig.) dealt with *O. rhodantha* and *O. xanthostemma* which he described as promising ornamentals. He gave a photograph of the former in flower, taken in Späth's nursery.

(5) In July, 1897, Meehan (in *Meeh. Month.* 7:133 fig. 134) published a translation of Rehder's article, and a reproduction of Rehder's photograph, mistakenly attributing the originals to an anonymous contributor of *La Semaine Horticole*. Meehan, somehow, credited Rehder only with having "engraved" the illustration.

(<sup>1</sup>) Boissvain & Davidson (Colo. Cacti 29. 1940) write that Schumann found these plants near Grand Junction, Colorado. This error does not detract from the excellent work otherwise done by the authors just cited, but should be corrected. I am not aware that Schumann ever collected cacti in the United States or elsewhere in America. The collector was C. A. Purpus, not to be confused with his brother, J. A. Purpus of the Botanical Garden of Darmstadt. The type-locality is the Mesa Grande, at an height of 2000-2300 meters above sea-level. See J. A. Purpus in *Mitt. Deutsch. Dendrol. Gesell.* 1925:64. 1925.

(6) In September, 1897, an anonymous author (in *Sem. Hort.* 1:354) contributed a perfunctory note, sketchily describing, without mention of author, *O. rhodantha* (sic) and *O. xanthostemma* (sic).

(7) In 1898, Schumann, overlooking or neglecting all previous mentions of these binomials, presented them as new species with a Latin diagnosis (*Gesambtbeschr. Kakt.* 735) as *O. rhodantha* and *O. xanthostemma* (sic).

(8) In 1919, Britton & Rose (*Cacti.* 1:198) reduced *O. xanthostemma* to synonymy under *O. rhodantha*.

(9) In 1926, Rehder (in *Jour. Arnold Arb.* 7:149) published a new combination, *O. rhodantha* var. *xanthostemma*.

Schumann's mention of *O. rhodantha* and *O. xanthostemma* in 1896 does not constitute valid publication, for the descriptions that follow the binomials are all too sketchy. Little better are the characterizations of Späth's Catalogue. The first genuine publication is that of Rehnelt. Admitting that many taxonomists may be unwilling to accept Schumann's original *nomina subnuda* in principle, I am inclined to honor them on ground of expediency. If Schumann's *nomina subnuda* are rejected, the publishing author is Rehnelt. This transfer of authorship is bound to add a great deal to the intricacies of the synonymy, because every writer in the literature has so far accepted Schumann as the sole author, following standard texts, and the best indexes. The names proposed by Schumann in 1896 have constantly been referred to the same *Opuntias*, and no question of homonymy is involved in their use, such as would demand a stringent consideration of validity under the artless wording of Art. 61 in the current Rules of Botanical Nomenclature. Under the circumstances, the least of many evils is to honor the publication of 1896 by Schumann without disturbing the literature as it now reads.

A source of much perplexity are the numerous "varieties" published under *O. rhodantha* and *O. xanthostemma*. Between 1897 and 1903, the Catalogues of Späth listed under these binomials such trinomials as *fulgens*, *rosea*, *brevispina*, *flavispina*, *elegans*, *orbicularis*, *pisciformis*, *Schumanniana* and *gracilis*. There is some reason to believe that most of these names apply to mere individual variations or vegetative states of *O. rhodantha*<sup>1</sup>. As published by Rehder, *O. rhodantha* var. *xanthostemma* does have legitimate

<sup>1</sup> Rehnelt lists (in op. cit. 90) a number of unnamed forms of *O. rhodantha* and *O. xanthostemma*, which are referred to by him under the collector's original field-number. Accordingly, we find under *O. rhodantha*: "*Opuntia spec.* 8; *O. spec.* 15a; *O. spec.* 4a", and under *O. xanthostemma*: "*O. spec.* 7; *O. spec.* 5; *O. spec.* 21; *O. spec.* 51; *O. spec.* 16." The description of these forms suggest altitudinal variations, some having been collected at 1800 meters, other at 2900 meters, which C. A. Purpus recorded with purposeful care. By comparing the descriptions of Rehnelt with those of Späth and J. A. Purpus, some of these unnamed entities might yet be placed. "*O. spec.* 7" would seem to be *O. rhodantha pisciformis*, and might actually fall within the limits of *O. rhodantha* var. *spinosa* Boiss. & David. This, of course, does not mean that Boissvain & Davidson's variety is to be reduced forthwith to *O. rhodantha pisciformis* Späth (or "Späth ex Purpus," depending upon an interpretation of the validity of publication), for the impression which is mine when reading the literature is not tantamount to a fact. Only with cogent proof may we



horticultural state, because it seems proved that the form of this cactus with yellow stamens was widely distributed in Europe as a clone, being propagated by vegetative means. The question whether publications effected in commercial catalogues are valid is by no means settled, many authors believing that such publications should be rejected, while others disagree. It is plain, in my opinion, that an excellent case can be made for the "commercial" publication of trinomials which apply to forms of plants long established in cultivation, because these publications are the well meant birth-certificates of variations which, after all, stand oftentimes in clear need of recognition. On the other hand, the publications by Späth of trinomials under *O. rhodantha* and *O. xanthostemma* suggest a commercial device, honorable as this may be, much rather than anything else. The practical impossibility of deciding between what is strictly commercial, and what to some extent is scientific, indicates that the best way out of difficulties is to rule out all publications taking place in commercial catalogues (that is, catalogues or similar printed matter which include prices). However, not even this decision will definitely help us here, for in many instances publications effected in commercial catalogues are accepted, repeated, and not seldom amplified in periodicals and texts which are legitimate vehicles of taxonomic and horticultural nomenclature. The "varieties" of Späth, for instance, are accepted by J. A. Purpus (in Mitt. Deutsch. Dendrol. Gesell. 1927: 64-65. 1927), and if Späth's Catalogues are ruled out, Purpus's name may yet remain as that of the author of these trinomials. Thus, regardless of the decision to be taken, we are bound to have a double set of nomenclatural values under *O. rhodantha*, some taxonomic, others horticultural. In a very definite sense *O. rhodantha* var. *spinosior* Boiss. & David. (Colo. Cact. 29. 1940), which is a geographic well established form, peculiar of the species in the southwestern Colorado desert, is not on a par with *O. rhodantha* var. *xanthostemma* (Schum.) Rehd., which seemingly is only an horticultural clone. Both these trinomials are now legitimate in their own sphere, which may serve as a further illustration of the futility of much "philosophical" discussion that takes place about the use of the term "variety." It seems necessary to speak here of the trinomials of Späth and J. A. Purpus, for their presence in the current record makes illegitimate the use of like epithets even for good taxonomic entities of the same rank. Having warned the reader as to the facts and their possible consequences, I will accept in the coming synonymy only references that have taxonomic significance, to the exclusion of purely horticultural names.

A minor issue is in the meaning and spelling of the names of these *Opuntias*. In the *Gesamtbeschreibung*, Schumann correctly explains that *rhodantha* means "bearing flowers resembling a rose", not "red flowers", which recent authors believe. The epithet *xanthostemma* Schumann interprets as "having yellow stamens." A scholar may be inclined to dispute this version, for *stemma* (*stemmatos*) in classical Greek means wreath, crown or garland (witness the generic name *Sarcostemma*), while a stamen or similar rod-like structure is properly designated as *stemon* (*stemonos*) (witness the generic name *Trigonostemon*). If Schumann actually meant to refer to the yellow stamens of this cactus, the epithet *xanthostemma* ought to be corrected to

*xanthostemon* as a matter of course, *xanthostema* being objectionable throughout. The matter is hardly worthy of discussion, for *xanthostemma*, as such, is correctly formed, but precise indexers who cite synonyms exactly as originally given by their authors are bound to refer to *O. xanthostema*, this being the name universally used before 1898. Britton & Rose treat *O. xanthostemma* as a synonym of *O. rhodantha* on the ground that its publication is later. This is a misapprehension, for the two binomials were simultaneously published. Accordingly, Rehder's choice under Art. 52 of the current Rules is the one that finally settles the validity of *O. rhodantha*. It is peculiar that Coulter should have overlooked so conspicuous a species as *O. rhodantha* while getting together the material for his extensive monograph of *Opuntia* (in Contr. U. S. Nat. Herb. 3: 418-462. 1896). It is not excluded that a diligent search conducted among Coulter's specimens will reveal that he actually considered this cactus, wholly or in part, under some other binomial or trinomial. This should further extend and complicate the synonymy.

Leaving out of the record names of straight horticultural origin or significance, as explained, the basic citations and synonyms of *O. rhodantha* may be reconstructed for the present as follows, with emphasis placed on what I take to be the original publications:

*OPUNTIA RHODANTHA* Schumann in Monatschr. Kakteenk. 6:111. 1896 (*nomen subnudum*); Gesamtschr. Kakt. 735. 1898 (*perperam* "sp. nov."). *Opuntia rhodantha* Schumann, Späth Katal. No. 98 (1896-1897): 58. 1896; Späth Katal. No. 100 (1897-1898): 140, pl. 1897; Rehnelt in Gartenwelt 1:83 (fig.), 90. 1896; Rehder in Möll. Gärt.-Zeit. 12:13 (fig.) 1897; Meehan in Meeh. Month. 7:133 (fig.), 134. 1897; (*rhodonta*) Anonymous in Sem. Hort. 1:354. 1897; Rydberg, Fl. Colo. 239. 1906; Britton & Rose, Cact. 1:98 pl. xxxii f. 2. 1919; J. A. Purpus in Mitt. Deutsch. Dendrol. Gesell. 1925:64 pl. 16. 1925<sup>1</sup>; Backeberg & Knuth, Cact.-ABC 132. 1935; Borg, Cacti 87. 1937; Boissevain & Davidson, Colo. Cacti. 28-31 fig. 18-20. 1940; Benson & Thornber, Cacti Ariz. 53, pl. 19 f. C, pl. 20. 1940; Kearney & Peebles, Flow. Plts. Ferns Ariz. 611. 1942.

*Opuntia xanthostema* Schumann in Monatschr. Kakteenk. 6:111. 1896 (*nomen subnudum*); [*xanthostemma*] Gesamtschr. Kakt. 735. 1898 [*perperam* "sp. nov."]

*Opuntia xanthostemma* Schumann, Späth loc. cit.; Rehnelt loc. cit.; Rehder loc. cit.; Meehan loc. cit.; [*xanthostema*] Anonymous loc. cit.; Rydberg loc. cit.; [in syn.: *xanthostemma*] Britton & Rose loc. cit.; Wagner in Monatschr. Kakteenk. 30:152, 153 (fig.). 1920; J. A. Purpus loc. cit.; [*haud rite forma, ut videtur*] Backeberg & Knuth loc. cit.; [in syn.: *xanthostemma*] Boissevain & Davidson op. cit. 31.

*Opuntia utahensis* J. A. Purpus in Monatschr. Kakteenk. 19:133, 135 (fig.). 1909; in Mitt. Deutsch. Dendrol. Gesell. 1925: 63. 1925; [in syn.] Britton & Rose loc. cit.; [*haud rite forma, ut videtur*] Backeberg & Knuth loc. cit.

Britton & Rose refer to the "Gartenwelt 1:83" for an illustration of *O. rhodantha*, stating that this illustration shows *O. rhodantha* under the name of *O. xanthostemma*. This statement is erroneous, because Rehnelt illustrates these *Opuntias* as distinct. The fact is worth noticing, because Rehnelt's figures, although not of the best, have classic status.

Continued from footnote pg. 88

ultimately swap Boissevain & Davidson's well defined variety with Späth's still hazy and rankless trinomial. I mention the matter here, for it will interest a student of the ecology of *Opuntia*, and may yield interesting data as to the variations of *O. rhodantha* at different heights. A Latin description, validating the earlier mention of *O. rhodantha* var. *spinosior*, is contributed by Boissevain & Davidson in Cact. Succ. Journ. 15:138. 1943.

<sup>1</sup>There is doubt whether the volumes of the "Mitteilungen" (also called "Jahrbuch") of this Society were and are actually distributed during the year displayed on the title-page. It is not excluded that the actual publication of the reference here cited took place in 1926.



## AFFILIATE NOTES

Please send your Affiliate Notes to Chas. A. Place, 645 W. 40th Pl., Los Angeles 37, California.

Just as these notes were ready for the "dead line," I received word that the May number of the JOURNAL was to be devoted entirely to photographs.

Mrs. Fred M. Beightol (Librarian), writes:

"The Freeport Cactus Club, at their March meeting, voted to have a show some time in September; about the season when members are moving their plants indoors for the winter. It was also decided to use John E. C. Rodgers' *Cereusly Speaking* as the basis for our lessons. This month we are starting with his article on *Zygocactus* and *Schlumbergera*. At each meeting as many as can are to bring their plants which are covered by that lesson. One of my plants has a diameter of about 36 inches, so of course I won't be able to take that. Two weeks ago I had a very nice visit with Mrs. Pat White in Milwaukee; their fine collection is housed in the nicest backyard greenhouse I have ever seen so far."

A show during the "duration!" Benedicite.

Mr. G. W. van der Bundt (correspondent), writes:

"The Cactus and Other Succulent League of Oakland held their April meeting at the Jewish Community Center in down town Oakland so as to accommodate our members. Mrs. Eisickson was our hostess for the day. Our President, Mrs. Newlon, gave an address on, 'Succulents in the garden and in pots.' After her talk, kodachrome slides of the plants under discussion were shown; the meeting was well attended. The meeting of May 7th was held at the University of California Botanical Gardens. The host for the day, Jack Whitehead, was ready to answer questions and talk over the merits of the different plants. The large greenhouse is loaded down with cacti and other succulents. The greenhouse is never shaded or white-washed so the plants have a color only the sun can give them. Jack does like I do, in watering all plants overhead. Just turn the spray loose and wet them. I have never seen any harm done and the plants stay cleaner."

Always something doing with "Jack on the job."

Chas. R. Cole (Regional Vice President), writes:

"The K.I.O. Cactus Club held its February meeting at the home of the Cor. Sec., D. Neuman, with 17 members present. Haselton's new booklet of 64 pages was shown and 8 copies sold quickly. A few of *Cacti for the Amateur* and *Succulents for the Amateur* were also sold. At the March meeting the regular order of business was dispensed with in favor of a tour of the Lloyd Library and an illustrated talk by Dr. Dorothy I. Parker. The A. A. University women are sponsoring her in her two books on Western and Eastern plants of U. S. Mr. I. M. Krohn, Pres. of the Cincinnati Park board and a new member of the club, attended the April meeting which was held at the home of Mr. Wehrenberg. Mr. Krohn is connected with the State Park Board and they are trying to get all five branches organized under one head with the object in view of raising the Ohio parks to a par with those of Indiana where there is a hotel at each of the State parks. Mr. Gray has attended several of the meetings. Seems the California winters do not agree with him any more than they do with some cacti."

This makes our 10th straight "unusual" winter.

Mr. Elmer Dutton (Sec.), writes:

"The Washington Cactus and Succulent Society held a meeting the evening of April 10th. We had enough members present to draw plans to meet present conditions. A motion was made that we suspend further

elections until some date in the future when things come back to normal. Our June meeting is to be our grafting meeting, we have one each year, everyone brings his own plants he wants to graft. The whole evening is spent in grafting, everyone else telling him how to do it. It's a lot of fun and it seems to bring out the members. The meeting will be held at my home. My plants are doing fine and have lots of buds on them. They have been out in the glasshouse since March 1st. Some mornings the top of the house has had ice frozen on it, but it didn't seem to hurt the plants a bit."

Friend Dutton I think your club is following the correct procedure; most clubs are doing likewise for the "duration."

Mrs. Lanita Olin (Sec.), writes:

"The Southwest Cactus Growers held their April meeting at the home of Mr. and Mrs. Rush. The subject discussed was *Hamatocactus*, the members reading from notes compiled from Britton and Rose, *Cacti for the Amateur*, etc. This was climaxed by an article written and read by Wm. Taylor Marshall, subject, 'Hamatocactus hamatacanthus.' Many interesting points about this genus were brought out affording plenty of opportunity for discussion."

A contribution by W. T. M. is always in order.

Mr. C. L. Wiese (Pres.), writes:

"The Cactus and Succulent Society of Oklahoma, which already has quite a sizeable library, is planning a rummage sale this summer to raise funds to have our *Cactus and Succulent Journals* bound into books which we find a very valuable adjunct for research and study. On April 25th, our lesson study for the evening was 'Asclepiadaceae,' by Mrs. Myrtle Conn and 'Preparation of Out Door Beds for Plants in the Spring,' by Mrs. R. A. Chubb."

In "Journals" bound there is knowledge found.

From *Spine Tips*, John E. Rodgers, Author:

"The Midwest Cactus and Succulent Society held their March meeting at the home of John E. Rodgers, Lorain, Ohio. A paper 'Notes on Haworthias and Aloes' was read by Mrs. Charles Amato. A demonstration of proper methods of constructing and planting dish gardens was made by Mr. Fish, who brought a fine collection of Aloes and Gasterias to illustrate Mrs. Amato's paper. The April meeting was held at the home of Mr. and Mrs. F. N. Hinkley."

From the Cactus Digest, E. M. Gearhart, Jr., Editor:

"The Henry Shaw Cactus Society held their March meeting in the experimental greenhouse at the Gardens, with a grafting demonstration as a feature of the meeting. From *Cactographs* by Ladislaus Cutak: The common *Bryophyllum tubiflorum* is one of the showiest Kalanchoids in existence. In Florida it is used quite extensively in most rock gardens and during the time of my visit in February, these plants were loaded with large colorful bell-shaped blossoms. The flowers appear at the top of a fairly large flower stalk, which is very green, but blotched and marbled with purple. They are pendulous, of a jasper red color, and not quite 2 inches long. The calyx lobes are only a quarter inch long, of a light cress green to purplish color, and glaucous. The corolla lobes are free for about a half inch, jasper red on the outside and more orange on the inside. The perianth, upon withering, changes to a pomegranate purple. Stamens are pinkish or light purple, terminated by tiny, chocolate, heart-shaped anthers. The stigmas are a green yellow color. *Bryophyllum tubiflorum* is an interesting leafed plant with curious cylindric leaves and in the greenhouse often becomes a pest as tiny plants are produced from the tips of the leaves. The plant hails from Madagascar."



# SPINE CHATS

LADISLAV CUTAK



Recently there came to my attention a very interesting piece of work on "The Vegetation of the Karamoja District, Uganda" authored by A. S. Thomas in The Journal of Ecology (London), November, 1943, issue. KARAMOJA is the driest district in Uganda and also the most sparsely populated. The inhabitants are a pastoral people. Nine types of plant communities exist in the District, the most interesting to us being the succulent thickets confined to small areas, usually close to centers of settlements. The massive *Euphorbia calycina* is the dominant tree while *E. grandicornis* is also abundant. There are at least four species of *Aloe* differing in size from massive shrubs with leaves three feet long to a small spreading species with leaves closely pressed to the ground. The climbing succulent *Cissus quadrangularis* and *Sarcostemma viminalis* are plentiful. As to succulent Stapeliads these are much more common in KARAMOJA than in any other part of Uganda. A *Caralluma*, which attains a height of 20 inches is very common, as is also *Stapelia Dummeri*, the most equatorial of the Stapeliads. The natives of Tanganyika, a province to the south of Uganda, use the macerated stems of this latter species in water, which is squirted into the ear to relieve acute earache. *Caralluma gracilipes* is also relatively abundant. Other succulents native to the region are *Kleinia longiflorus* and *Talinum cuneifolium*, but the most beautiful of the indigenous plants is *Adenium Hongbel*, a succulent shrub with swollen green stems and pretty Azalea-like flowers at the ends of the branches. *Sansevieria Eberbergii* and *S. suffruticosa* grow in scattered patches everywhere.

Another new "slipper-flower" has been added to the growing list of Pedilanthi from Central America. This new species, *Pedilanthus camporum*, was described by Paul C. Standley and Julian A. Steyermark in Publication 556 of the Field Museum (Chicago), issued March 24, 1944. The authors were hesitant about making a new species in this troublesome genus, but since their plant from Guatemala differed from anything listed by Millspaugh in his account of the group, there was no other recourse to be taken. The plant grows in dry thickets on the plains between Nueva Linda and Champerico and among Central American species it may be recognized readily by its pubescent involucre.

The likeable Ervin Strong, who served two terms as President of the Cactus and Succulent Society of America, was first pricked by a spine six or seven years ago, but it was hard and deep enough to inoculate him with the hobby-serum. One beautiful spring day, his girl friend, Dorothy Renfro, (now Mrs. Strong) and he were out driving in the desert country between Victorville and Barstow in California. They saw some cacti that were in bloom and picked five different kinds to take home to his mother who already had an extensive and all-inclusive (so thought Ervin) collection in a 3x5 ft. bed. The fact that these were different created his interest enough to learn through inquiry that there were around 1500 species. Soon after, Strong was invited to attend a pilgrimage meeting of the Cactus and Succulent Society and while at the Wm. L. Maechten collection he really considered hobbying in cacti. A subsequent journey to the Huntington Gardens in San Marino completely won

him to the cause. In the beginning, like many of us, he was in the two-bit purchasing class and because of limited space in his backyard he became partial to the Mammillarias, later branching out to include all the *Coryphanthanae*. In 1937 he was elected to the Board of Directors of the Society, became chairman of the Tenth Annual Show Committee in 1938, chosen as member of the Nomenclature Committee in 1939, elected Corresponding Secretary during Bill Marshall's regime and finally stepped into the President's shoes when Marshall chose to retire. All of us, who attended the St. Louis Convention, remember this husky, clean-cut lad as one of the busiest persons during the entire proceedings. He was here, there and everywhere attending to the sundry details that go to make a Convention successful.

Mrs. Lisetta Travers of Peoria, Illinois, always had flowers in her outdoor garden and at one time raised quite a few geraniums for sale. Later she got interested in begonias. A few years ago a couple of cacti were given to her, one being an *Echinopsis* and the other an unidentified species. She really did not care about the plants being under the impression that they did not produce blossoms and after all they were so full of wicked spines. The potted specimens were placed under a tree that Spring and completely forgotten for a time. One day Mrs. Travers chanced upon her neglected cacti and noticed a queer looking growth near the top of the *Echinopsis*, so got interested and wondered what it was. Lo and behold! the fuzzy bud later developed into a beautiful trumpet-shaped blossom,—white and as gorgeous as a lily. The other plant also condescended to bloom in late summer—a cerise flower with a dark violet center. Well, after that, she changed her opinion about these prickly desert children and accepted additional plants and cuttings from friends, along with a lot of good and bad directions as how to raise them. Then came a few cactus catalogs with beautiful pictures of flowering specimens to set her heart on securing other plants. Her prize possessions are Haworthias which she keeps in her east window.

In the month of March several well-known cactus enthusiasts were in St. Louis for a visit. Lt. George Lindsay of California spent two weeks at Jefferson Barracks prior to his departure overseas as a war cinematographer. While here he browsed through the Garden's Library and was much impressed by the wealth of old books on our shelves. Mrs. Frank G. Coover of Orlando, Florida, stayed three weeks at the home of a daughter who lives in suburban St. Louis. While in our city she got the opportunity to attend one of the meetings of the Henry Shaw Cactus Society. Ella May Coover is an artist in oil and water color but conducts, with her husband, a thriving business in small succulents. The Coovers have had succulent plants as a hobby since early childhood but were not bitten seriously with *cactusiitis* until a nephew asked them to take over his collection of xerophytes when he joined up with the Army. Frank Coover is at present working on a project of the Civitan Club which is to erect an outdoor cactus garden in Orlando after the War. Mrs. Coover is the newly appointed Regional Vice-President for the 7th District.

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#### EDITOR'S NOTES

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Please send in a list of ten standard types and colors of Epiphyllums that you would like to see adopted as the best known varieties.

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